San Gabriel Valley Groundwater Cleanup Superfund Progress Report

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Cleanup of the Valley's Soil and Groundwater Continues

More than 190 billion gallons of groundwater treated; $320 million spent on cleanup

The U.S. Environmental Protection Agency (EPA) continues to make significant progress in the decades-long effort to clean up groundwater pollution in the San Gabriel Valley. Fourteen groundwater treatment systems are operating as part of the Superfund cleanups – in Baldwin Park; El Monte; South El Monte; and the Whittier Narrows area – with three additional systems planned or in construction in Puente Valley. Most systems operate as joint cleanup and water supply projects, supplying clean drinking water to area residents. Since 2002, the 14 projects have treated more than 190 billion gallons of contaminated water and removed more than 90,000 pounds of contaminants from the groundwater. Targeted cleanups of industrial facilities have removed another 80,000 pounds of contaminants from the soil.

Through agreements that EPA has negotiated with Potentially Responsible Parties (PRPs), and EPA enforcement orders, PRPs have paid an estimated 320 million dollars for cleanup. Additional funds have been provided by the EPA, Congressionally-earmarked federal funds, the State of California, and local ratepayers. These entities will spend estimated 200 million dollars on the cleanup over the next 10 years.

The Valley's Drinking Water

The San Gabriel Basin aquifer is the primary source of drinking water for over one million residents in the San Gabriel Valley. Local water utilities continue to supply high quality groundwater from the San Gabriel Basin to residents and businesses in the Valley. In areas affected by the contamination, water utilities have closed contaminated drinking water supply wells and continued to provide their customers with clean water by using treated water from EPA cleanup projects, installing wellhead treatment systems, obtaining water from unaffected parts of the basin, and using imported water. Drinking water supplies are regularly tested to make sure that they meet federal and state drinking water standards.

EPA, State, and local cleanup efforts are protecting the groundwater from further degradation and continuing the decades-long process of removing potentially harmful chemicals from contaminated portions of the aquifer.

Key Accomplishments

Whittier Narrows Operable Unit (OU)*

The State of California operates an EPA-built water treatment system protecting the drinking water supply for more than two million Los Angeles residents.

Baldwin Park OU

Local water agencies operate five large water treatment systems that clean the groundwater and provide drinking water to more than 100,000 homes and businesses in the San Gabriel Valley.

South El Monte OU

EPA contracts operation of four water treatment systems that clean the groundwater and provide drinking water to about 50,000 homes in the San Gabriel Valley.

El Monte OU

PRPs operate three water treatment systems and permitting of one additional system is underway.

Puente Valley OU

Over 100 new groundwater monitoring wells were installed by PRPs since 2013 and a vapor intrusion pathway assessment is ongoing.

Area 3 OU

A supplemental remedial investigation study will be completed in 2017 and a feasibility study is planned for 2018.

**EPA divides large or complicated cleanups into multiple "operable units."*

Sources of Contamination

The groundwater contamination is the result of decades of poor chemical handling and disposal practices by hundreds of industrial facilities. Most of the activities that led to the contamination probably occurred between the 1940s and 1970s, before the Superfund program was established and other environmental laws were adopted.

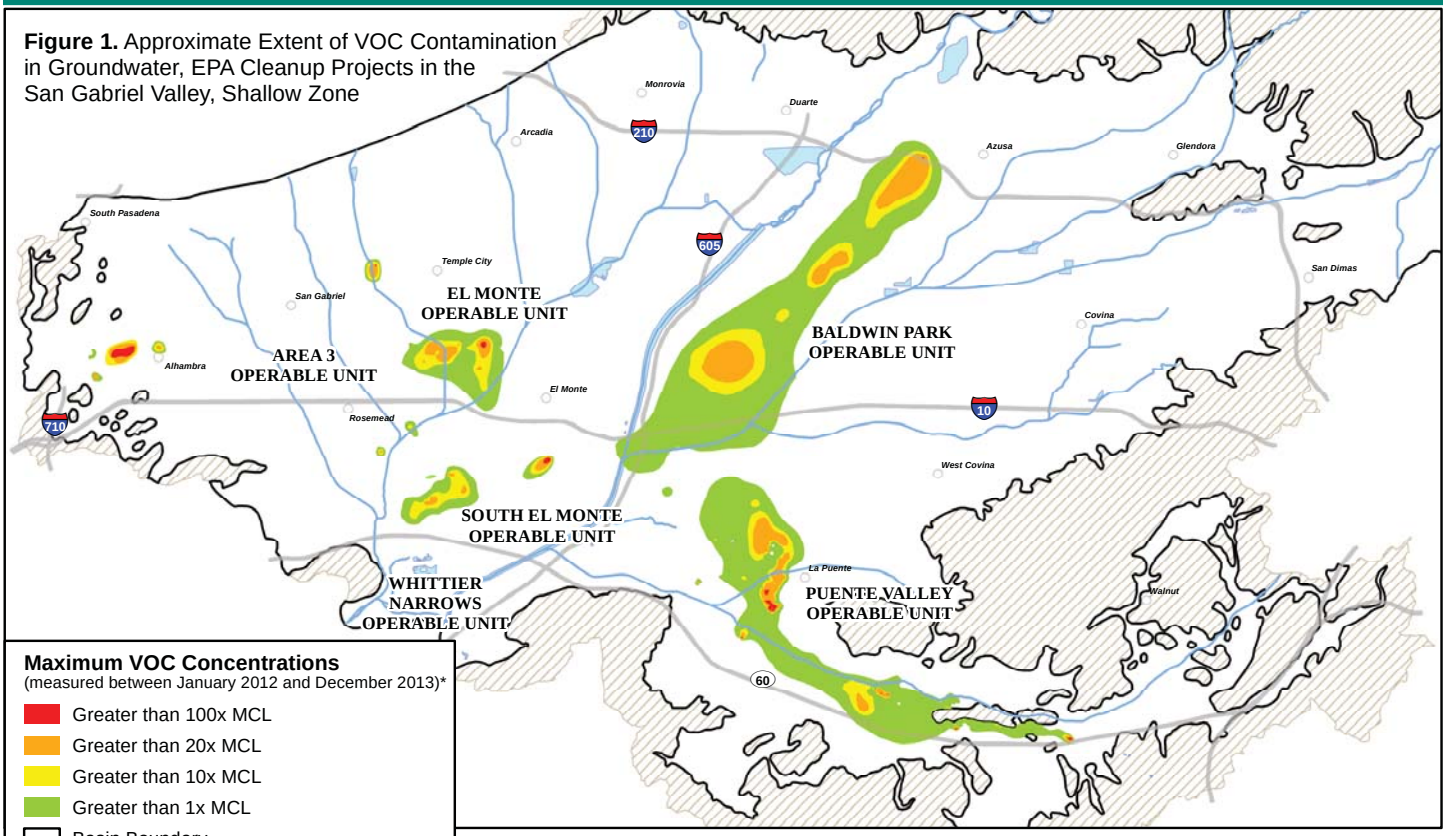


Figure 1. Approximate Extent of VOC Contamination in Groundwater, EPA Cleanup Projects in the San Gabriel Valley, Shallow Zone

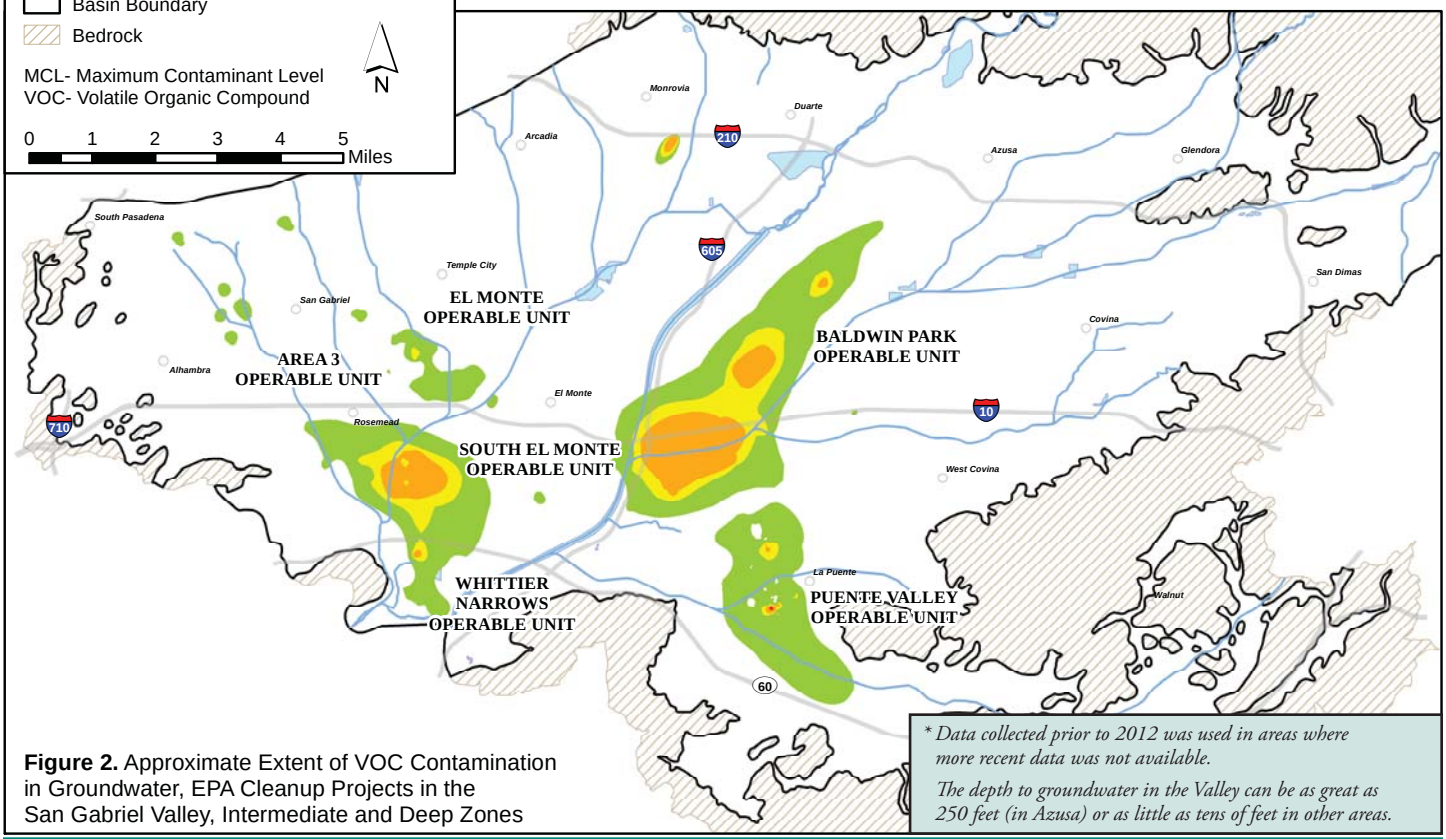


Figure 2. Approximate Extent of VOC Contamination in Groundwater, EPA Cleanup Projects in the San Gabriel Valley, Intermediate and Deep Zones

** Data collected prior to 2012 was used in areas where more recent data was not available.*

The depth to groundwater in the Valley can be as great as 250 feet (in Azusa) or as little as tens of feet in other areas.

A Brief History

In 1979, the state mandated testing of local drinking water supplies and discovered multiple areas of contamination in the San Gabriel Valley's water supply. In 1984, EPA added four areas of groundwater contamination to the Superfund National Priorities List and began a multiyear effort to understand the sources, nature and extent of the groundwater contamination.

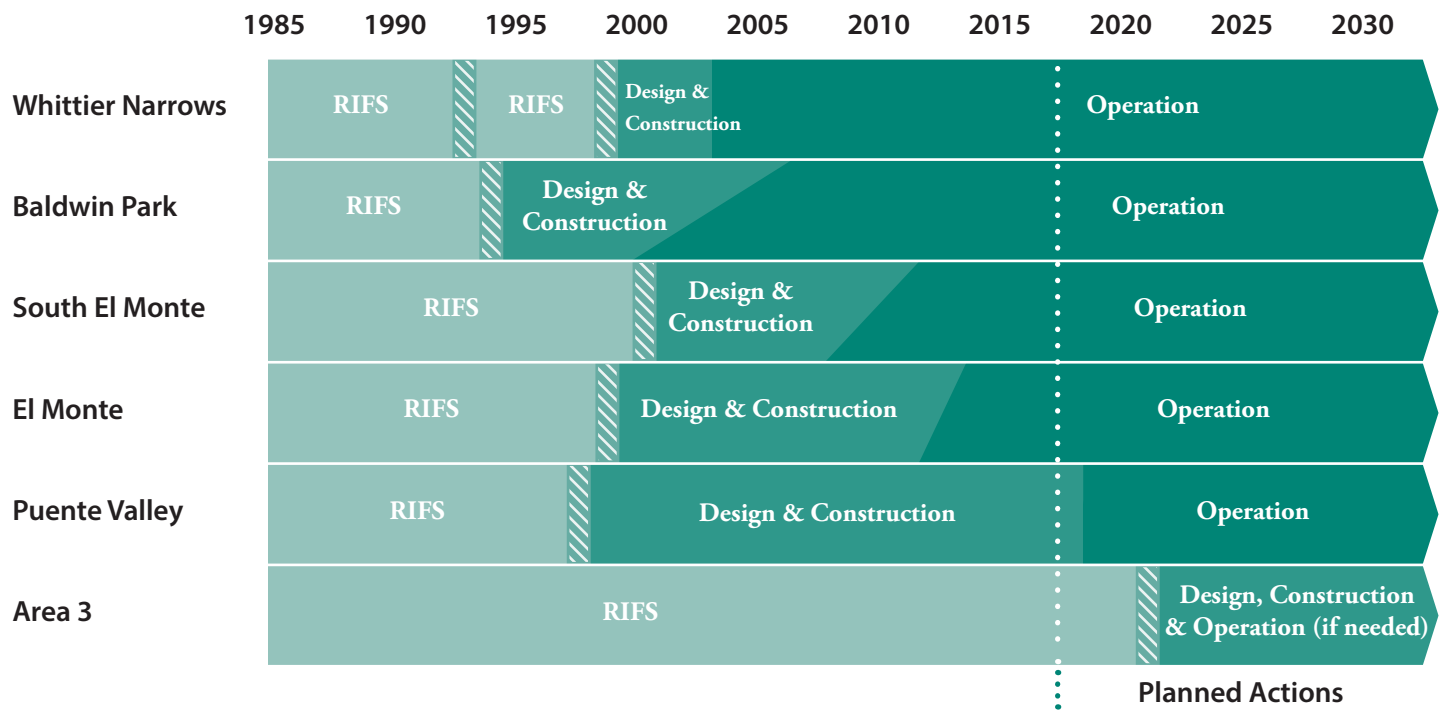
Initially, the EPA focused on the presence of solvents, such as trichloroethylene (TCE) and perchoroethylene (PCE), in the soil and groundwater. Later, EPA identified additional contaminants, such as a rocket fuel constituent called perchlorate, in some areas. Between 1993 and 2000, EPA adopted initial cleanup plans for most of the contaminated areas in the San Gabriel Valley. Over the last decade, EPA has ordered or negotiated agreements with PRPs to carry out or pay for most of the cleanups.

In 2001, EPA began construction of the groundwater extraction and treatment facilities needed as part of the cleanup. Additional details on the status of the cleanup in each of the areas of contamination is provided below.

Who is Responsible for Overseeing Cleanup?

EPA is responsible for overseeing cleanup in five of the six areas described in this fact sheet. EPA transferred financial and operating responsibility for the Whittier Narrows cleanup to the State of California in 2013. The PRPs are paying the majority of the cleanup costs and local water utilities are operating most of the water treatment systems. State and local water agencies, including the Los Angeles Regional Water Quality Control Board, the California Department of Toxic Substances Control (DTSC), the Main San Gabriel Basin Watermaster, and the San Gabriel Basin Water Quality Authority, also play important roles in the cleanup. Read on for more details.

San Gabriel Valley Cleanup – Progress and Plans



RIFS – Remedial Investigation and Feasibility Study (i.e., groundwater testing and engineering analysis)

– EPA Interim Record of Decision (i.e., cleanup plan)

Five-Year Review: EPA regularly reviews progress made at each of the cleanup projects. Formal reviews are completed every five years. Five-Year Reviews have been completed at the Whittier Narrows (2006, 2011, and 2016), Baldwin Park (2007 and 2012), Puente Valley (2011 and 2016), and the El Monte and South El Monte cleanups (2013 and 2016). A Five-Year Review of the Baldwin Park cleanup is underway.

Whittier Narrows

Where is it?

The Whittier Narrows OU addresses groundwater contamination in the southern most part of the San Gabriel Valley, where groundwater and surface water flow from the San Gabriel Basin into the Central Basin.

What are the primary contaminants of concern?

PCE.

What is the status of cleanup efforts?

EPA adopted an interim cleanup plan for the Whittier Narrows area in 1993, and amended the plan in 1999. In accordance with the plan, EPA completed construction of a $12 million groundwater treatment system in 2002. The plant included seven ground water extraction wells, pipelines, and 20 pairs of granular activated carbon (GAC) water treatment vessels. Since 2002, more than 22 billion gallons of water have been treated and thousands of pounds of contaminants removed from the groundwater. As the levels of contamination have decreased, EPA has modified the cleanup systems, reducing the number of active groundwater extraction wells from seven to three, and the number of active GAC vessel pairs from 20 to 10.

The City of Whittier operated the treatment facility from November 2004 until May 2013, supplying the treated groundwater to residents and businesses in Whittier, and to Legg Lake in the Whittier Narrows Recreation Area. In May 2013, the California DTSC took over responsibility for operation of the remedy and entered into a contract with the San Gabriel Valley Water Company (SGVWC) to operate the treatment plant. EPA completed a Five-Year Review in 2016.

Whittier Narrows Operable Unit Water Treatment System

Who is paying for cleanup? What will it cost?

More than $22 million has been spent to date on the Whittier Narrows cleanup. EPA has paid more than $20 million; the California DTSC has paid $5.6 million through January 2016 and is responsible for current operating costs. The annual cost of operating the cleanup facilities has ranged from about $0.5 to $1.2 million. The total cleanup cost is estimated to be $50 million.

What's next?

In the next year, EPA will complete approximately $5.5 million in improvements, which will include a new water storage tank, pump station, and disinfection equipment. The California DTSC will be responsible for 10% of the cost of the new construction and all operation and maintenance costs. Once EPA completes the improvements, DTSC will enter into a contract with potable water purveyors, to continue operations and supply a portion of the treated water to their customers.

For More Information

Information Repositories

EPA Region 9 Superfund Records Center
95 Hawthorne Street, Room 403
San Francisco, CA 94105
(415) 820-4700

Rosemead Public Library
8800 Valley Boulevard
Rosemead, CA 91770-1788
(626) 573-5220

Alhambra Public Library
101 South First Street
Alhambra, CA 91801
(626) 570-5008

West Covina Public Library
1601 West Covina Parkway
West Covina, CA 91790-2786
(626) 962-3541

EPA's San Gabriel Valley Website: http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/ViewByEPAID/CAD980818579

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Baldwin Park

Where is it?

The Baldwin Park OU addresses groundwater contamination underlying portions of the cities of Azusa, Irwindale, Baldwin Park, West Covina, La Puente, and City of Industry. The area of contamination is approximately eight square miles.

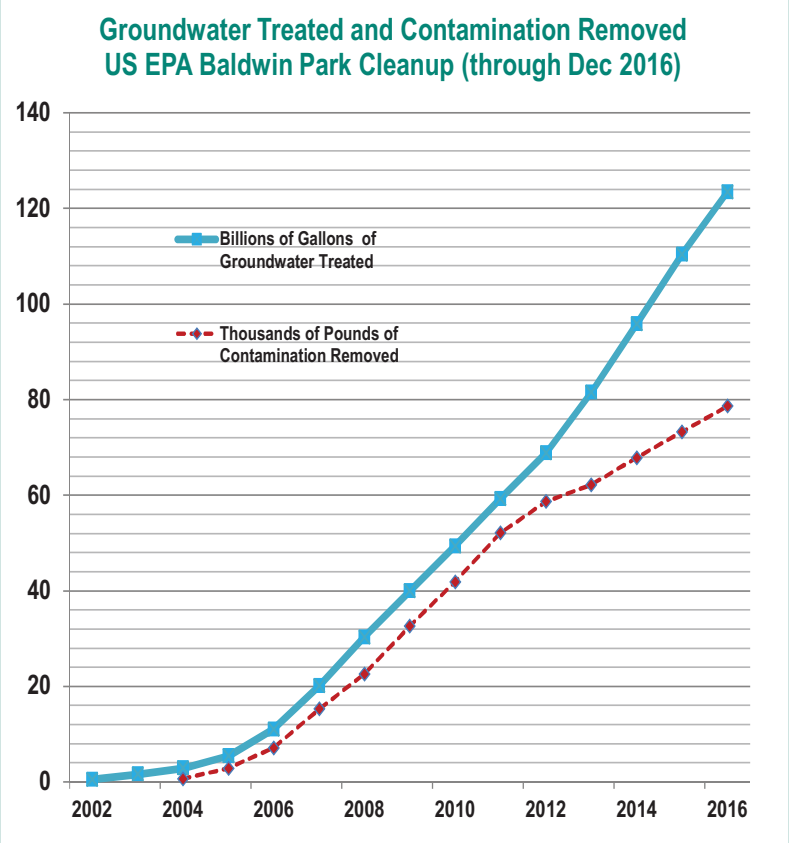
What are the primary contaminants of concern?

TCE, PCE, carbon tetrachloride, perchlorate, NDMA, 1,2,3-trichloropropane (1,2,3-TCP), and 1,4-dioxane.

What is the status of cleanup efforts?

EPA adopted a cleanup plan for the Baldwin Park area in 1994, and updated the plan in 1999. Five large groundwater extraction and treatment projects were built between 2000 and 2006 at a cost of more than $100 million. The projects are operated by local water utilities, supplying clean, treated water to local homes and businesses. The systems consist of ground water extraction wells, monitoring wells, pipelines, and multiple water treatment processes for removal of contaminants. From 2002 to 2016, more than 120 billion gallons of water were treated and more than 75,000 pounds of contamination removed from the ground water. The projects are currently treating over 35 million gallons of water per day and removing more than 5,000 pounds of contaminants per year, and are capable of supplying water to more than 100,000 homes. Recent improvements include the replacement of the perchlorate removal equipment at three of the projects to increase the reliability of the water treatment systems.

Between 2000 and present, soil cleanup work was also completed at five industrial properties in the Baldwin Park OU, removing tens of thousands of pounds of contaminants from the soil and soil gas. This work has been overseen primarily by the Los Angeles Regional Water Quality Control Board. EPA will complete a Five-Year Review in 2017.



Groundwater cleanup in the Azusa/Baldwin Park area

Who is paying for cleanup? What will it cost?

PRPs are funding a majority of the work in compliance with a June 2000 EPA Order. More than $250 million has been spent on the four cleanup projects to date, with annual operation and maintenance costs of approximately $16 million per year. Federal and state grants have contributed more than $38 million to the cleanup. The estimated total project cost is $500 million.

What's next?

EPA will oversee upgrades to the water treatment systems. Monitoring of progress toward EPA's cleanup goals will continue, with annual performance evaluation reports published each spring.

South El Monte

Where is it?

The South El Monte Operable Unit (SEMOU) addresses approximately two and one-half square miles of contaminated groundwater underlying portions of the cities of South El Monte, El Monte, and Rosemead.

What are the primary contaminants of concern? PCE.

What is the status of cleanup efforts?

EPA adopted an interim cleanup plan in the year 2000, and updated the plan in 2005. The cleanup currently uses eight groundwater extraction wells and four water treatment systems that remove PCE and TCE from the groundwater. EPA began operation of the treatment systems in 2008. After treatment, the drinking water is distributed by local water utilities to residents and businesses in the area.

Over the last five years, the project has treated more than 15 billion gallons of contaminated water and removed more than 7,000 pounds of contaminants. EPA conducted a Five Year Review of the SEMOU in 2013.

Who is paying for cleanup? What will it cost?

EPA has negotiated settlements with more than 40 PRPs to fund a large portion of the cleanup. Additional funds have been provided by EPA, the State of California, and the San Gabriel Valley Water Quality Authority. The total project cost is estimated to be $75 million.

What's next?

EPA is evaluating the need for additional cleanup at the SEMOU. As part of the evaluation, EPA installed new groundwater monitoring wells in 2012 and 2013 and is now analyzing the results. A report summarizing the results of the testing is expected in 2017; a feasibility study evaluating the need for additional cleanup is planned for 2018.

Vapor Intrusion Investigations

EPA started vapor intrusion investigations in 2011. Vapor intrusion refers to a process where certain chemicals that can produce vapors make their way through the ground and into the indoor air. EPA has performed investigations for 30 facilities that were historical sources of contamination, including sampling the indoor air of 30 commercial buildings and 65 residences. EPA has installed vapor intrusion mitigation systems at 6 residences and plans to install additional systems at 6 residences and 1 commercial building.

EPA will continue efforts to verify that priority areas have been identified and investigated. EPA has secured approximately $1 million to install additional mitigation systems and continue evaluating vapor intrusion in SEMOU.

El Monte

Where is it?

The El Monte Operable Unit (EMOU) addresses an area of groundwater contamination underlying portions of the cities of El Monte and Rosemead, and a small portion of Temple City. The contamination covers an area of approximately one and one-half square miles.

What are the primary contaminants of concern?

PCE and TCE.

What is the status of cleanup efforts?

EPA adopted a cleanup plan for the El Monte area in 1999, and updated the plan in 2002. Four water treatment systems have been constructed as part of the cleanup. The first two systems, known as the West Side OU, have been constructed and are operating. They include a treatment system constructed by a local water utility, and a recently constructed plant targeting the more contaminated shallow groundwater. The West Side systems supply drinking water to El Monte area residents and discharge treated water to the Eaton Wash.

Construction of the third and fourth water treatment systems, known as the East Side OU, have been completed. They include a treatment system for the City of El Monte and a plant to treat the more contaminated shallow groundwater.

The East Side system treated water has been recharging the groundwater supply; but will also supply drinking water to El Monte once the permit is approved.

El Monte Operable Unit Water Treatment System

Who is paying for cleanup? What will it cost?

PRPs are paying the majority of the cost, in accordance with a 2004 EPA Consent Decree.
The total project cost is estimated to be $50 million.

What's next?

The West Side will install additional extraction wells to control the southeasterly direction of groundwater flow in the shallow aquifer. The East Side drinking water permit approval and delivery to the City of El Monte is planned for 2017.

Puente Valley

Where is it?

The Puente Valley Operable Unit (PVOU) addresses groundwater contamination underlying portions of the cities of Industry and La Puente, and unincorporated Los Angeles County. The area of contamination is approximately five square miles.

What are the primary contaminants of concern?

PCE, TCE, 1,1-dichloroethene (1,1-DCE), and 1,4-dioxane.

What is the status of cleanup efforts?

Initial cleanup work at the site began in the 1980s, when groundwater cleanup systems operated at two locations under State oversight.

EPA adopted a groundwater cleanup plan for the Puente Valley area in 1998, and updated the plan in 2005. Three groundwater cleanup projects will be constructed as part of the cleanup. At the first cleanup project, known as the "Shallow Zone-North" cleanup, construction of a network of 10 groundwater extraction wells was completed in 2007. The project will clean up contaminated shallow groundwater north of Puente Creek. Design and Construction should resume in 2017 and be complete by 2019. Design and construction of the second project, known as the "Intermediate Zone" cleanup, should be complete in 2018. Th is project will clean up deeper, less contaminated groundwater. The third project, in design and construction, is anticipated to begin cleanup of highly contaminated shallow groundwater south of Puente Creek in 2018. The second Five-Year Review Report was completed in 2016.

Well Drilling Rig

Who is paying for cleanup? What will it cost?

Two PRPs are responsible for funding cleanup work in compliance with two Consent Decrees and a 2011 EPA Order. Other PRPs have contributed funds toward the cleanup. The total cost of the remedy is estimated to be $75 million.

What's next?

A vapor intrusion investigation must be completed for EPA to ensure the remedy is protective of human health. Efforts to complete arrangements for use or discharge of the treated water will continue, and construction of all three groundwater projects should be complete by 2019.

Area 3

Where is it?

The Area 3 investigation area includes pockets of groundwater contamination in a 19 square mile area that includes portions of the cities of Alhambra, Rosemead, San Gabriel, San Marino, South Pasadena, and Temple City.

What are the primary contaminants of concern?

TCE and PCE.

What is the status of cleanup efforts?

Since 2008, the City of Alhambra has operated a water treatment plant to remove TCE, PCE and 1,2,3-TCP from the drinking water supply.

The State of California has overseen the investigation and cleanup of current and former facilities that are sources of the groundwater contamination. At 13 facilities, the State of California is directing limited soil and soil gas cleanups, and will determine what additional cleanup is needed. EPA supplemented these investigations with 10 ground water monitoring wells and soil testing at ten facilities identified as possible sources of groundwater contamination. EPA is using the data from these investigations to determine the extent of groundwater contamination and evaluate possible regional groundwater cleanup options.

Who is paying for cleanup? What will it cost?

Property owners paid for testing at most of the industrial facilities. EPA has paid for the regional groundwater investigation and technical evaluations completed to date.

What's next?

In 2017, EPA plans to install additional monitoring wells to further investigate the extent of groundwater contamination and expects to complete a supplemental Remedial Investigation Report. In 2018, EPA plans to complete a feasibility study and develop proposed cleanup alternatives for regional groundwater contamination.

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Esta es una hoja informative sobre la limpieza del agua subterránea contaminada en el Valle de San Gabriel. Si usted quiere pedir que la información en español, llame al número gratuito que se indica a continuación.

這是有關聖蓋博谷區(San Gabriel Valley)被污染地下水現階段清理情況的說明書。 如果您需要繁體中文版本，請撥以下免費 電話聯絡以獲取相關資料。

Đây là tờ thông tin về việc làm sạch nước ngầm bị ô nhiễm ở thung lũng San Gabriel. Nếu quý vị muốn yêu cầu dịch thông tin sang tiếng Việt, hãy gọi tới số điện thoại miễn phí được nêu dưới đây.

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